ORDER NO. MD0306216C3

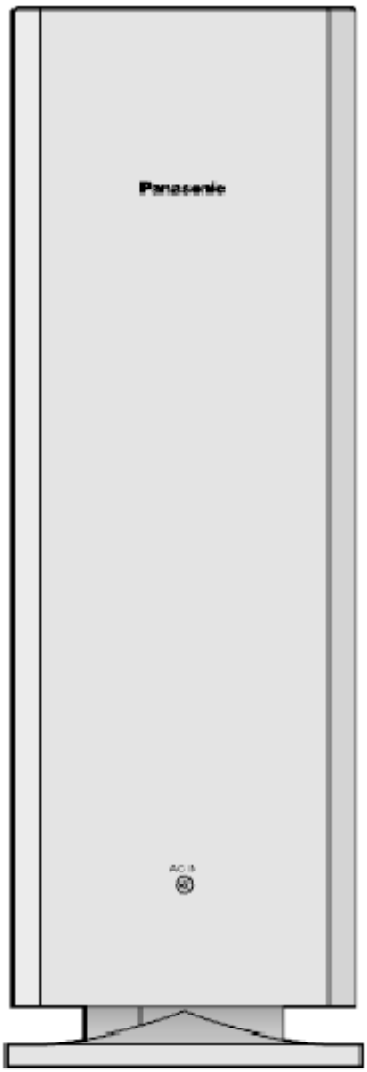
Service Manual

Active Subwoofer System

SB-WA330GN

Colour

(S)...Silver Type



SB-WA330

SPECIFICATIONS

Specification

■ Active subwoofer	
Type	1 way, 1 speaker, bass-ref.
Speaker unit	
Woofer	17 cm cone type 4 Ω
Input power	200 W (Music)
Output sound pressure level	80 dB/W (1.0 m)
Frequency range	40 Hz-220 Hz (-16 dB)
	45 Hz-180 Hz (-10 dB)
Dimensions (W x H x D)	160 x 450 x 424 mm
Mass	11.5 kg
■ General	
Power supply	AC 230-240 V, 50 Hz
Power consumption	210 W

Note :
Specifications are subject to change without notice.
Mass and dimensions are approximate.

■ System : SC-HT500 (GN)	Music Center: SA-HT500 (GN)
	Satellite speakers: SB-HT690 (P)
	Active Subwoofer: SB-WA330 (GN)
■ System : SC-HT700 (GN)	Music Center: SA-HT700 (GN)
	Satellite speakers: SB-HT700 (P)
	Active Subwoofer: SB-WA330 (GN)

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

1. Safety Precautions

1.1. GENERAL GUIDELINES

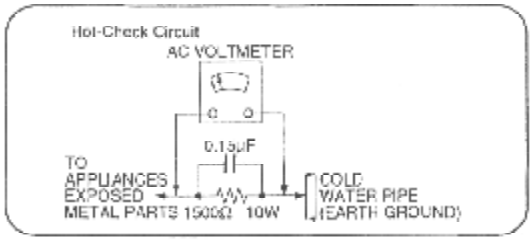
1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.

2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

1.1.1. LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1MΩ and 5.2Ω. / When the exposed metal does not have a return path to the chassis, the reading must be ∞.

Fig. 1



1.1.2. LEAKAGE CURRENT HOT CHECK (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5kΩ, 10 watts resistor, in parallel with a 0.15 μF capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above

measurements.

6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

2. Handling the Lead-free Solder

2.1. About lead free solder (PbF)

Distinction of PbF P.C.B. :
P.C.B.s (manufactured) using lead free solder will have a PbF stamp on the P.C.B.
Caution:

- **Pb free solder has a higher melting point that standard solder; Typically the melting point is 50 - 70°F (30 - 40°C) higher. / Please use a high temperature soldering iron. In case of the soldering iron with temperature control, please set it to 700 ± 20°F (370 ± 10°C).**
- **Pb free solder will tend to splash when heated too high (about 1100°F/600°C).**
- **When soldering or unsoldering, please completely remove all of the solder on the pins or solder area, and be sure to heat the soldering points with the Pb free solder until it melts enough.**

3. Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C546, C547, C548, C549 through a 10 Ω, 1 W resistor to ground.
DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.
After repairs are completed, restore power gradually using a variac, to avoid overcurrent.
Current consumption at AC 230~240V, 50Hz in NO SIGNAL mode should be ~400 mA.

4. Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- **No sound is heard when the power is turned on.**
- **Sound stops during a performance.**

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are
“shorted”, or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.

2. Determine the cause of the problem and correct it.

3. Turn on the power once again after one minute.

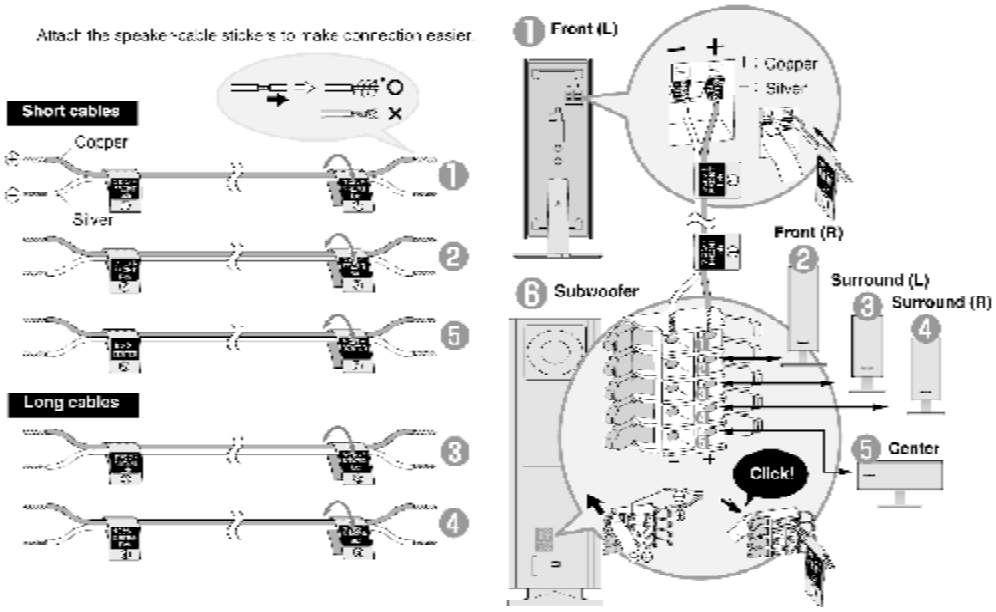
Note :
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

5. Connection of the Speaker Cables

- Be sure to connect speaker cables before connecting the AC power supply cord.
- The load impedance of any speaker used with this unit must be 4 Ω .
- Be sure to connect the cable from the right speaker to the right terminal and the cable from the left speaker to the left terminal.

1. Strip off the outer covering, and twist the center conductor. Make sure the bare ends of the wires are not unravelled. (If they are, twist them tight again.)

2. Insert the wire to the rear panel of the unit and close the lever.



Notes :

- To prevent damage to circuitry, never short-circuit positive (+) and negative (-) speaker wires.
- Be sure to connect only positive (red) wires to positive (+)

terminals and negative (black) wires to negative (-) terminals.

6. Disassembly Procedure

“ATTENTION SERVICER”

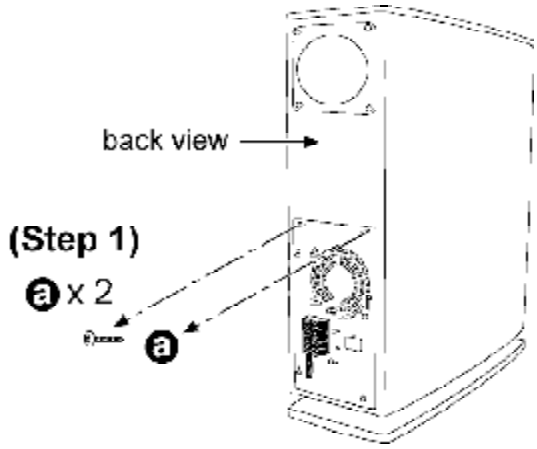
Some chassis components may have sharp edges.
Be careful when disassembling and servicing.

1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For reassembly after operation checks or replacement, reverse the respective procedures.**
   Special reassembly procedures are described only when required.
3. **Select items from the following index when checks or replacement are required.**

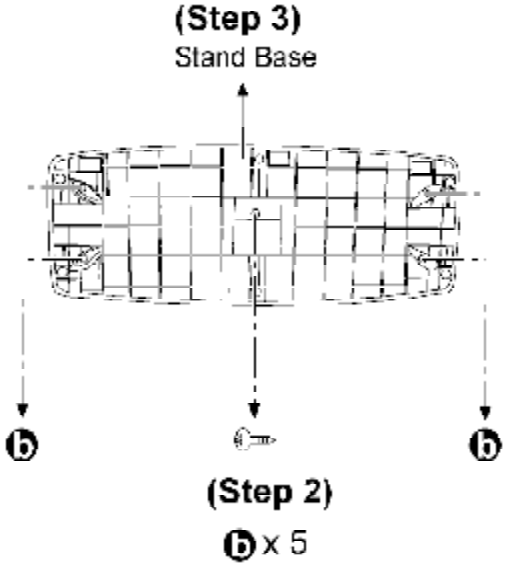
Contents

- **Disassembly of the Speaker Unit**
- **Main Component Replacement Procedures**

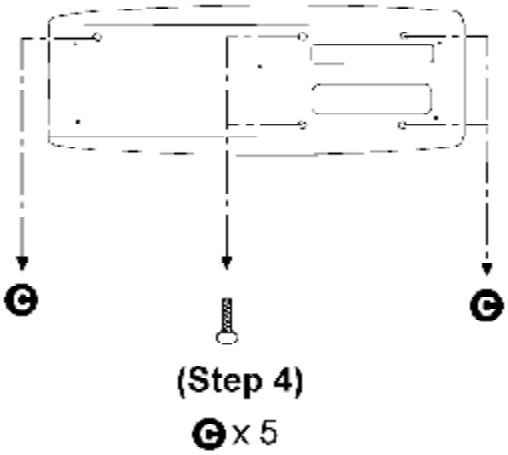
6.1. Disassembly of the Speaker Unit



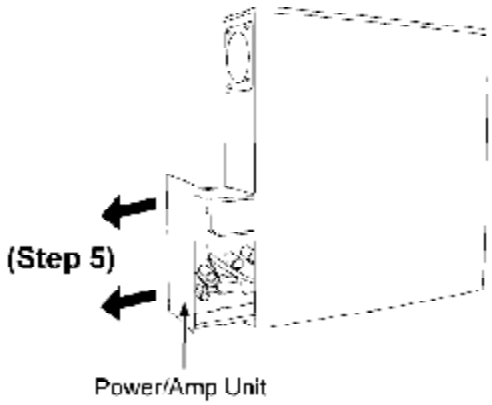
Step 1: Remove 2 screws from the rear panel.



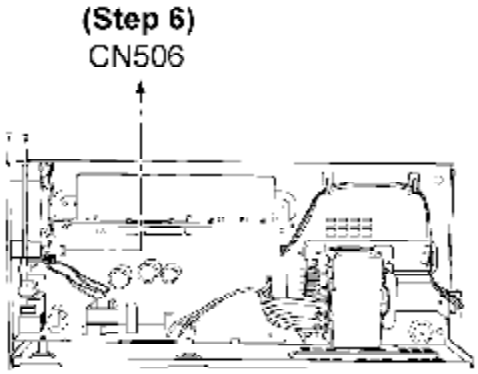
Step 2: Remove all screws.
Step 3: Remove the Stand Base.



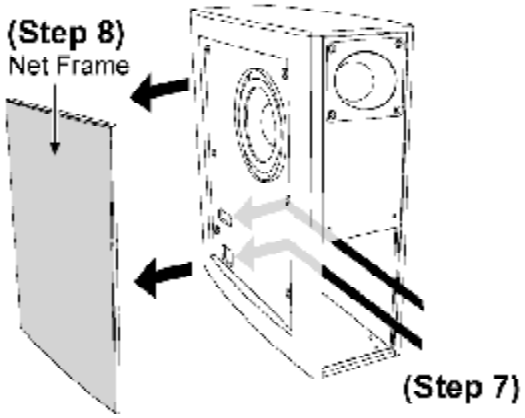
Step 4: Remove 5 screws from the speaker bottom.



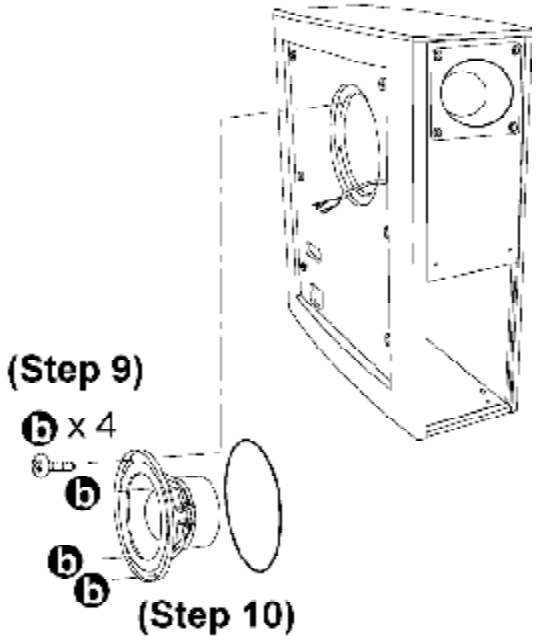
Step 5: Pull the Power/Amp Unit as shown.



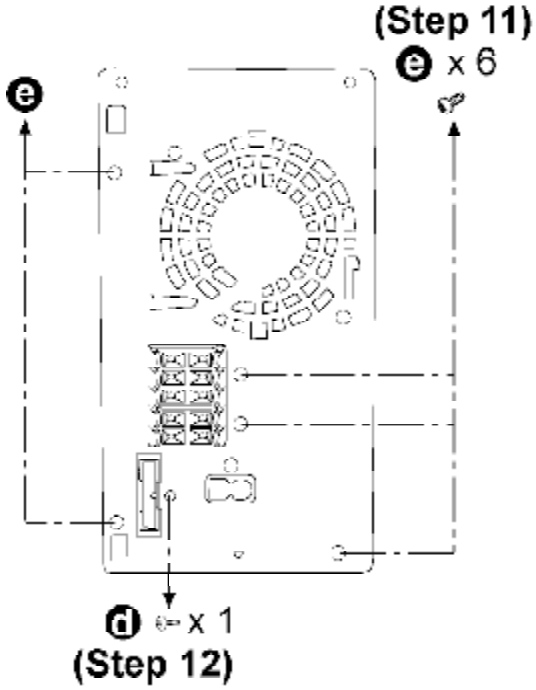
Step 6: Release the connector CN506 and pull out the Power/Amp Unit.



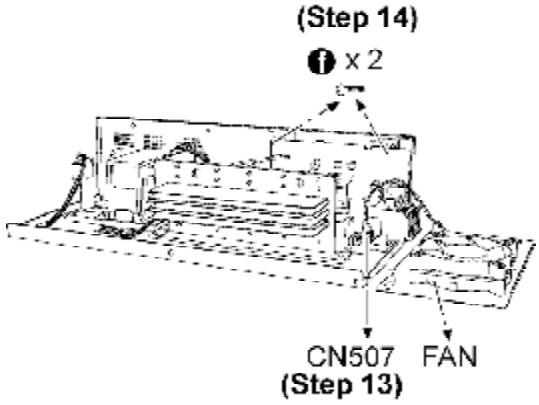
Step 7: Push the Net Frame from two holes inside the unit.
Step 8: Remove the Net Frame.



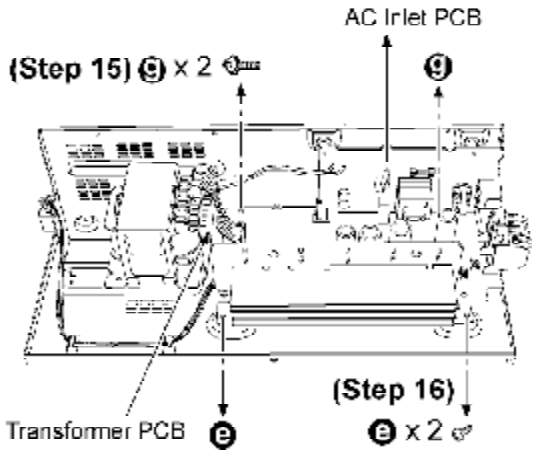
Step 9: Remove all the screws.
Step 10: Remove the Speaker.



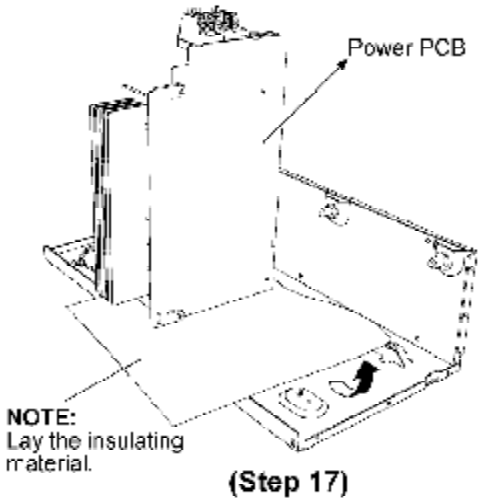
Step 11 & 12: Remove all the screws.



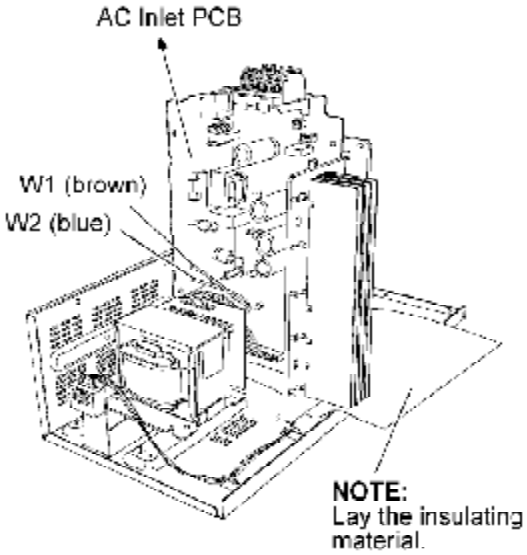
Step 13: Release the connector CN507.
Step 14: Remove the 2 screws.



Step 15 & 16: Remove all the screws.



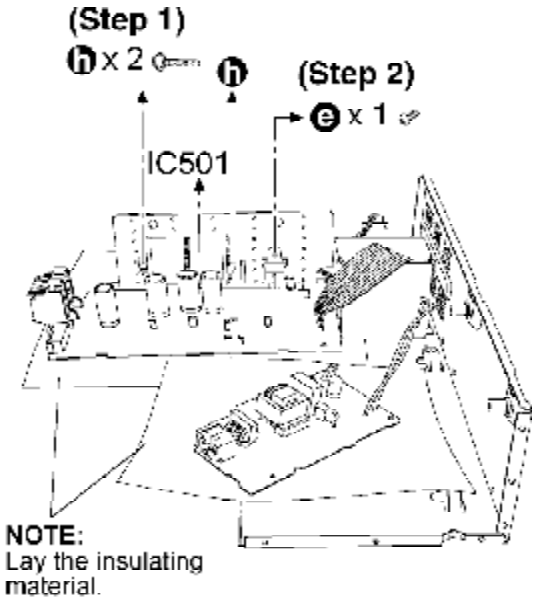
Step 17: Place the Power PCB as shown for checking.



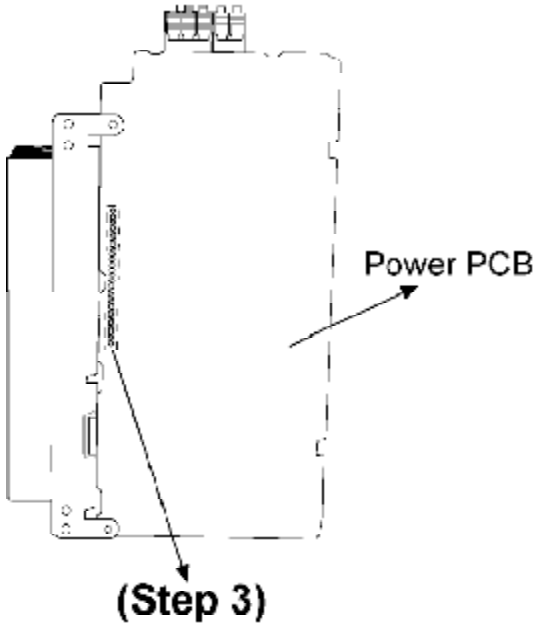
Checking for AC Inlet PCB.

6.2. Main Component Replacement Procedures

6.2.1. Replacement of the Power IC

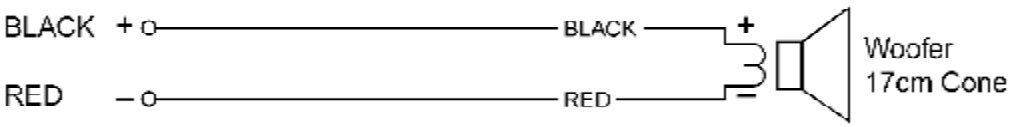


Step 1 & 2: Remove all the screws.

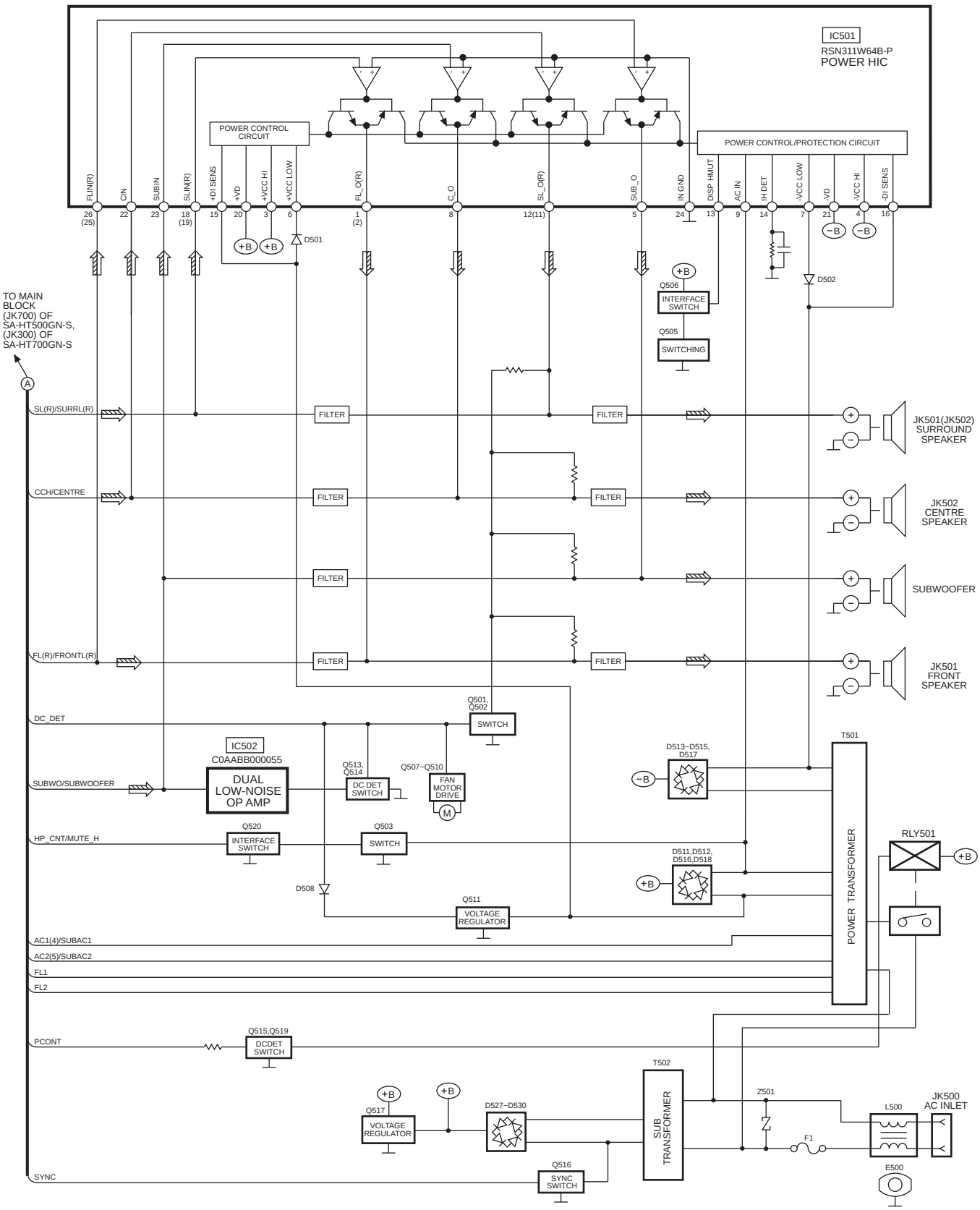


Step 3: Desolder the Power IC terminal and replace the component.

7. Connection of the Speaker Wiring



8. Block Diagram

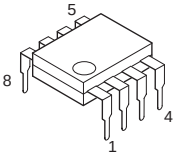
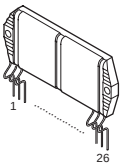
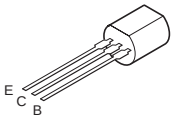
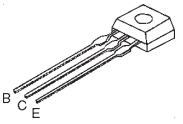
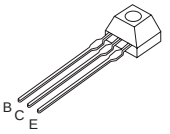
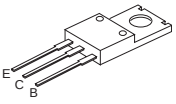
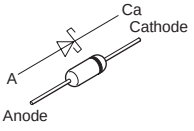
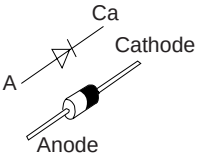
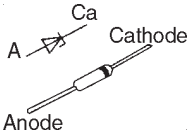
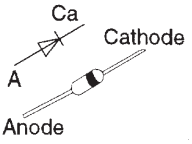
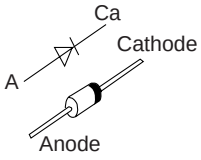
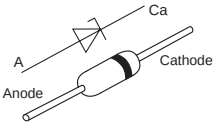
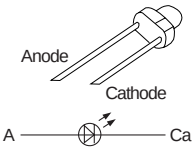


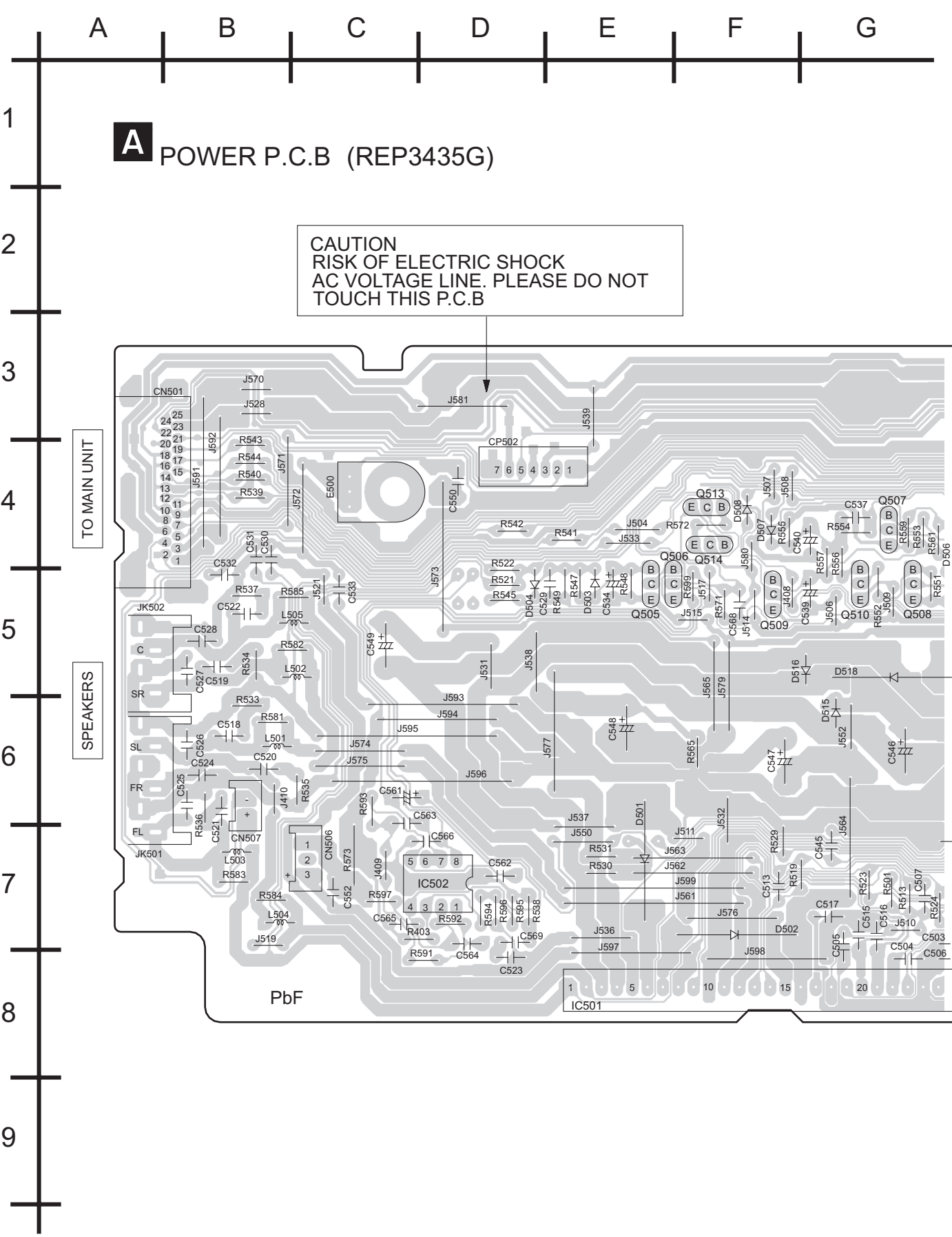
SIGNAL LINES

: MAIN SIGNAL LINE

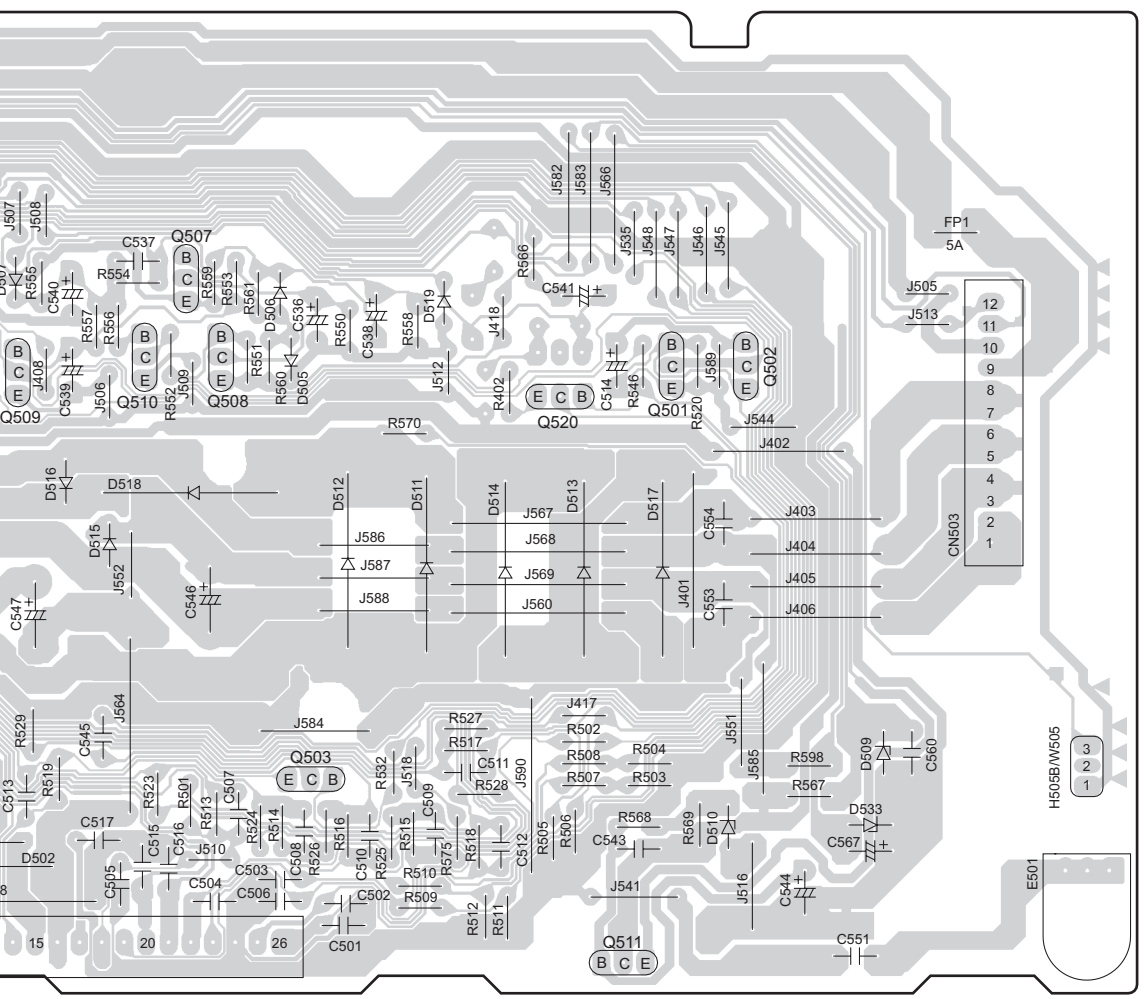
( ) Indicates Pin No. of Right Channel

Note : Signal Lines are applicable to the Left Channel only.

C0AABB000055 	RSN311W64B-P 	KTA12710YTA 	KTC3199GRTA 	KRA102MTA KRC102MTA 
KTC2026 	MA2C700A0F 	B0HARM000017 	B0BA9R600002 	B0AACK000004 
B0EAKM000085 B0JAPG000019 	B0BA6R600008 B0BA5R100013 	SLI325URCT31 		


A
POWER P.C.B (REP3435G)
CAUTION
RISK OF ELECTRIC SHOCK
AC VOLTAGE LINE. PLEASE DO NOT
TOUCH THIS P.C.B
TO MAIN UNIT
SPEAKERS
CN501
JK502
JK501
CP502
IC502
IC501
Q505
Q506
Q507
Q508
Q509
Q510
Q513
Q514
PbF

G H I J K L M


Q507
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Q508
Q509
Q520
Q501
Q502
Q503
Q511
FP1
5A
CN503
H505B/W505
E501
J505
J513
J544
J402
J403
J404
J405
J406
R570
C537
C540
C539
C536
C538
C541
C514
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J508
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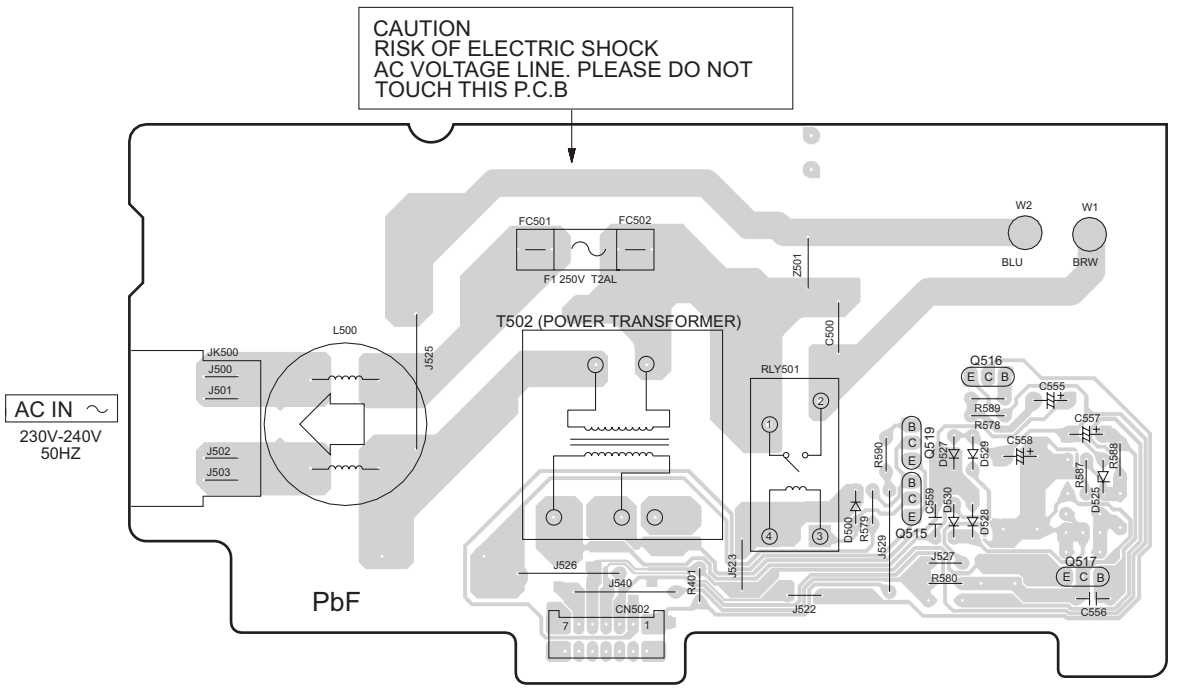
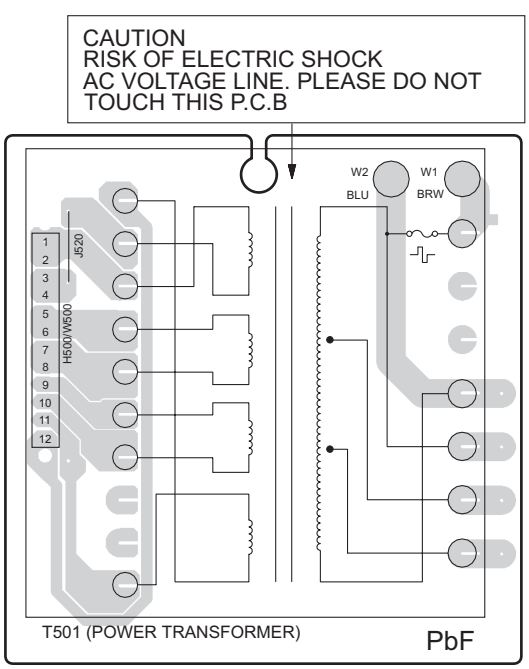
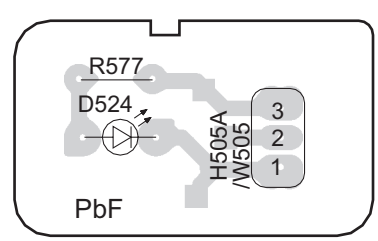
B AC INLET P.C.B (REP3435G)



C TRANSFORMER P.C.B (REP3435G)



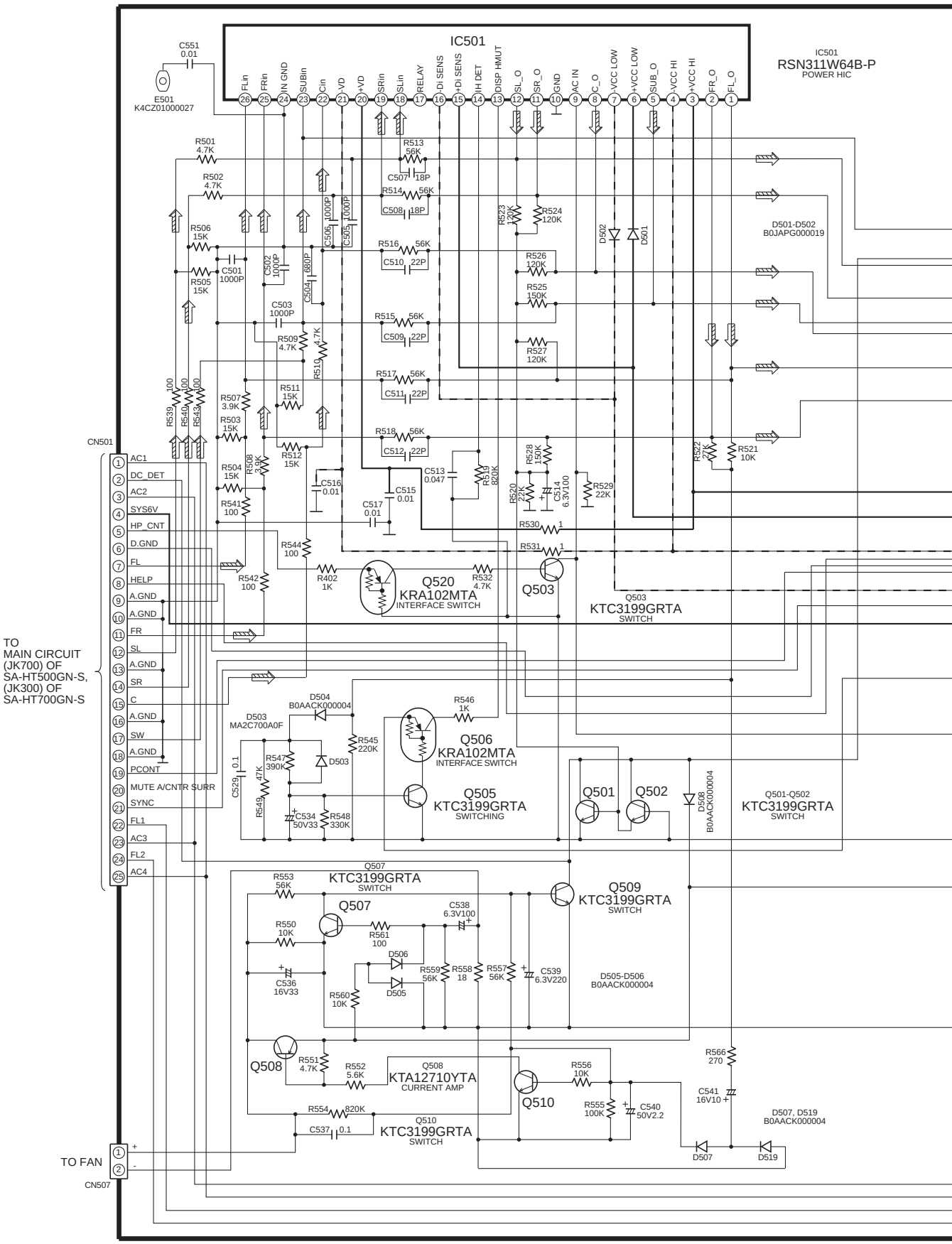
D LED P.C.B (REP3435G)



SCHEMATIC DIAGRAM-1

A POWER CIRCUIT

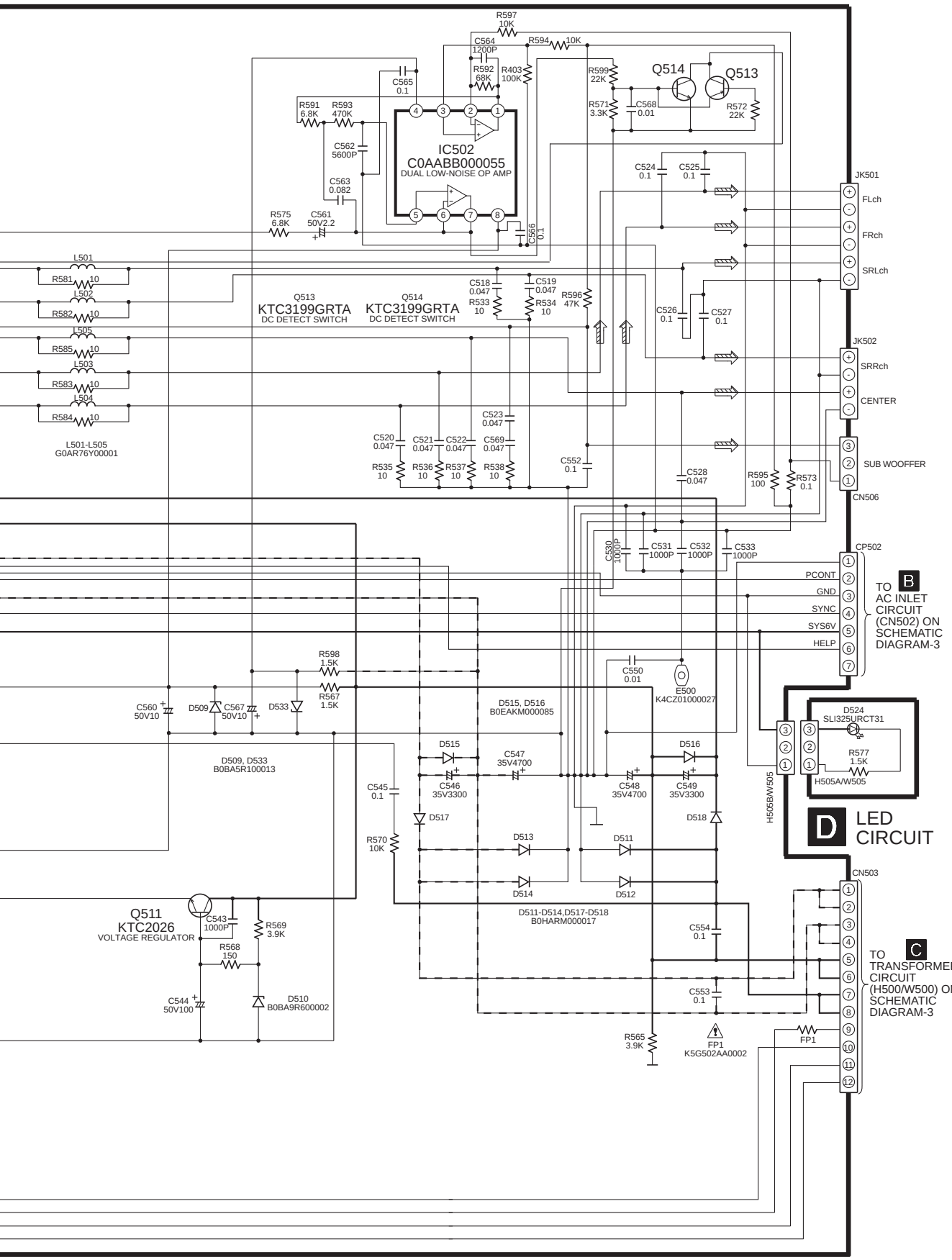
: -B SIGNAL LINE
: +B SIGNAL LINE
: MAIN SIGNAL LINE



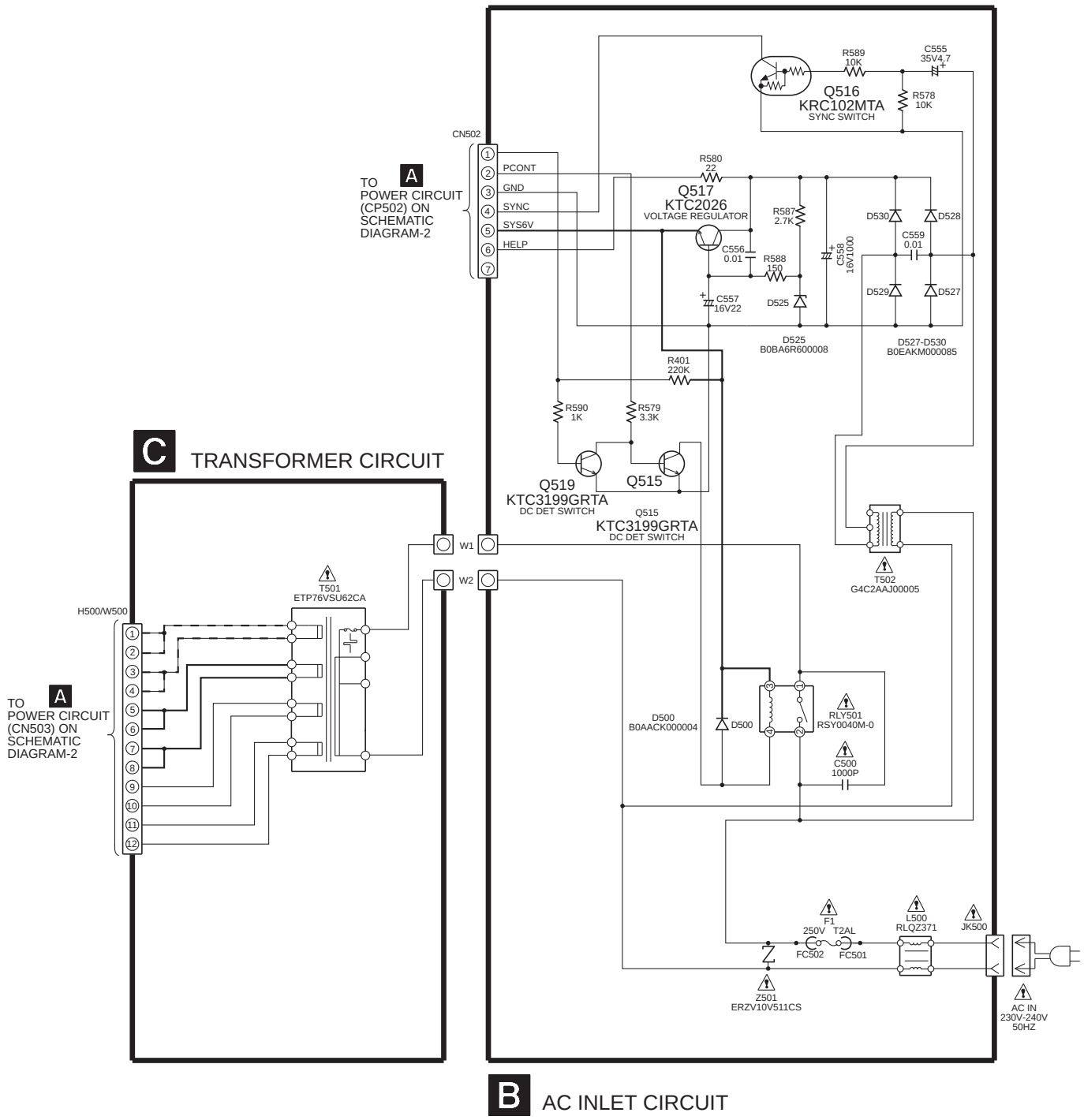
SCHEMATIC DIAGRAM-2

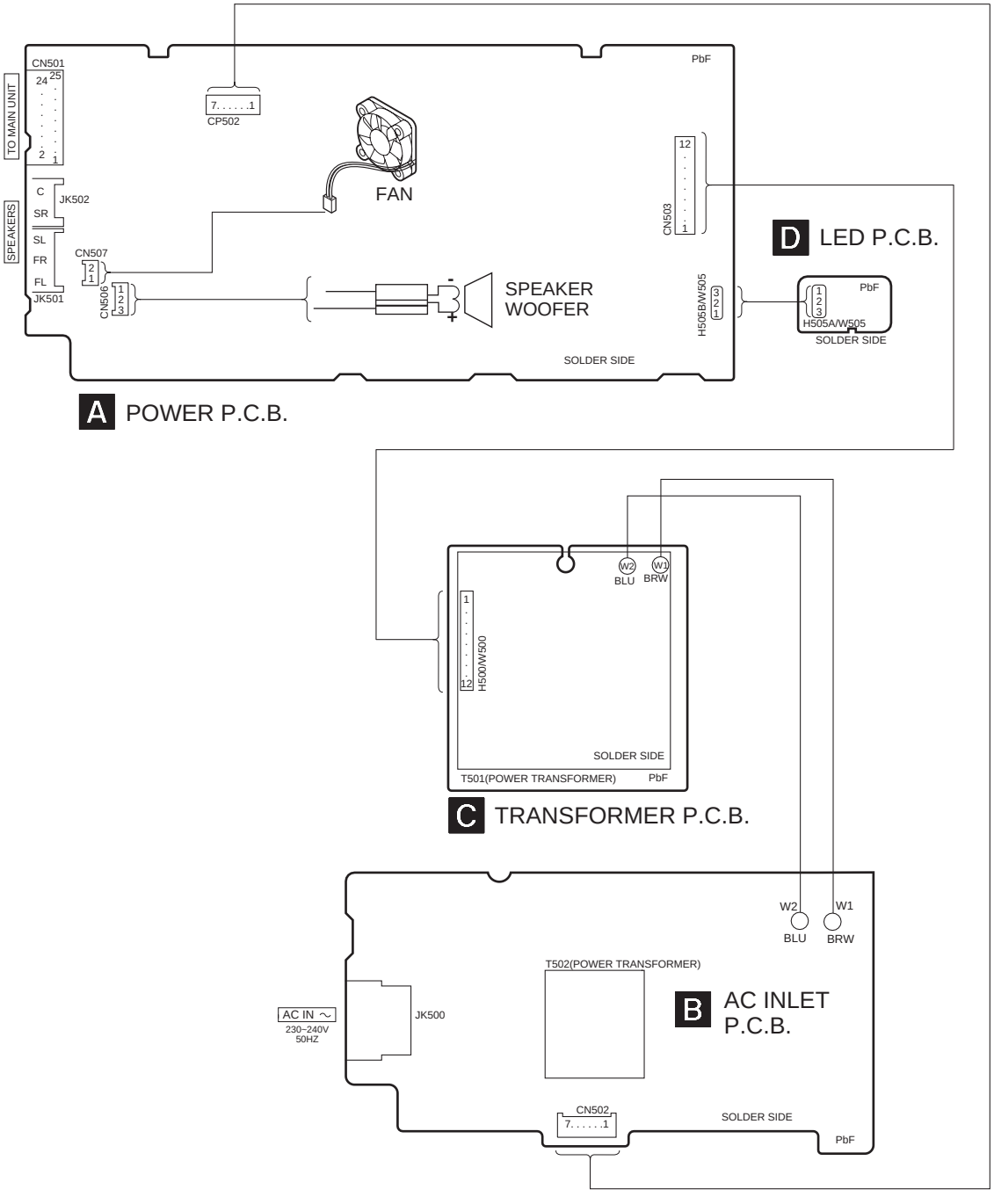
A POWER CIRCUIT

: -B SIGNAL LINE
: +B SIGNAL LINE
: MAIN SIGNAL LINE



SCHEMATIC DIAGRAM-3




TO MAIN UNIT
CN501
24
25
2
1
SPEAKERS
C
SR
SL
FR
FL
JK502
JK501
CN507
2
1
CN506
1
2
3
7. 1
CP502
FAN
PbF
12
1
CN503
D LED P.C.B.
SPEAKER
WOOFER
H505B/W505
3
2
1
1
2
3
PbF
H505A/W505
SOLDER SIDE
SOLDER SIDE
A POWER P.C.B.
W2
W1
BLU
BRW
1
12
H500/W500
SOLDER SIDE
T501(POWER TRANSFORMER)
PbF
C TRANSFORMER P.C.B.
W2
W1
BLU
BRW
T502(POWER TRANSFORMER)
AC IN ~
230~240V
50HZ
JK500
B AC INLET
P.C.B.
CN502
7. 1
SOLDER SIDE
PbF

9. Schematic Diagram

(All schematic diagrams may be modified at any time with the development of the new technology)

Note:

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

- Importance safety notice :

Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !

IC, LSI and VLSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminium foil.

- Put a conductive mat on the work table.

- Ground the soldering iron.

- Do not touch the pins of IC, LSI or VLSI with fingers directly.

10. Printed Circuit Board

11. Wiring Connection Diagram

12. Illustration of IC’s, Transistors and Diodes

13. Parts Location and Replacement Parts List

Notes:

- Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardent (resistors), high-quality sound (capacitors), low noise (resistors), etc are used.

When replacing any of these components, be sure to use only manufacturer's specified parts shown in the parts list.

- The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour) Parts without these indications can be used for all areas.

- Capacitor values are in microfarads (μ F) unless specified otherwise, P= Pico-farads (pF), F= Farads.

- Resistance values are in ohms, unless specified otherwise, 1K= 1,000 (OHM).

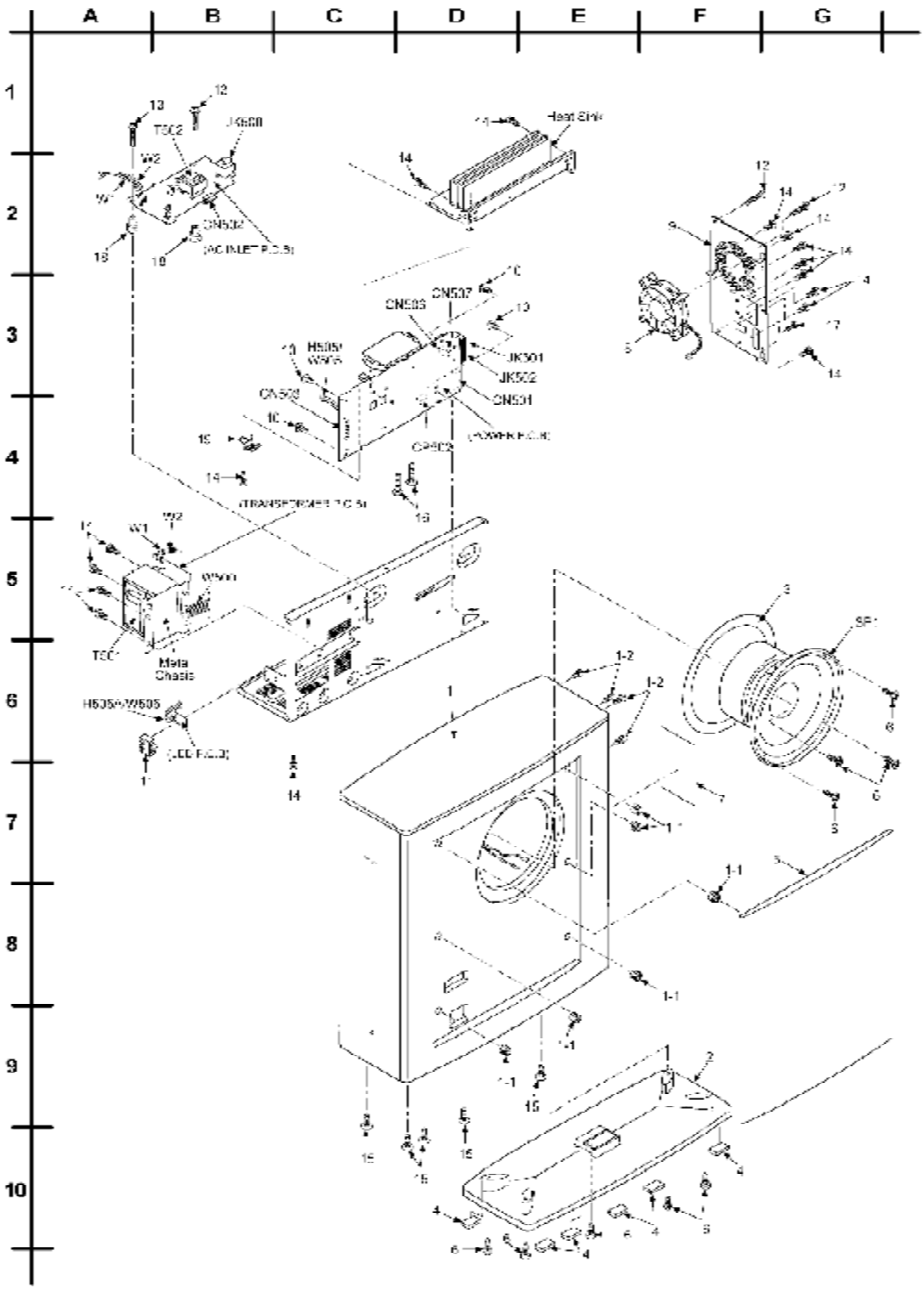
- The marking (RTL) indicates that the Retention Time is limited for this items. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of a availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

- [M] Indicates in the Remarks columns indicates parts supplied by PAVCSG.

- The "(SF)" mark denotes the standard part.

13.1. Cabinet

13.1.1. Cabinet Parts Location



13.1.2. Cabinet Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RFKHBWAMT1PS	SPK CABINET ASS'Y	[M]
1-1	RMG0520-K	CATCH	[M]
1-2	XTB4+12AFN	SCREW	[M]
2	RGK1601-S	STAND ORNAMENT	[M]
3	RMQ0705	EVA PACKING	[M]
4	RKA0147-K	FOOT	[M]
5	RYB0298AJ	NET FRAME ASS'Y	[M]
6	XTB4+14AFN	SCREW (WOOFER)	[M]
7	RGNX0175N-S	NAME PLATE LABEL	[M]
8	REM0072-3	FAN	[M]
9	RGR0332A-JA	REAR PANEL	[M]
10	RHD30092	SCREW (MAIN PCB)	[M]
11	RMR1485-W	LED HOLDER	[M]
12	XTB3+16AFZ	SCREW	[M]
13	XTB3+20JFZ	SCREW	[M]
14	XTBS3+8JFZ1	SCREW	[M]
15	XTS4+20JFZ	SCREW	[M]
16	XTW3+15T	SCREW	[M]
17	XYC26+CJ6FZ	SCREW	[M]
18	SHE187-6J	PCB SUPPORT	[M]
19	RMC0158-S	TR. FIXTURE	[M]

13.2. Component Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PRINTED CIRCUIT BOARD	
	REP3435G	POWER P.C.B./ AC INLET P.C.B./ TRANSFORMER P.C.B./ LED P.C.B.	[M] (RTL)
		INTEGRATED CIRCUITS	
IC501	RSN311W64B-P	IC HIC	[M]
IC502	C0AABB000055	IC AMP	[M]
		TRANSISTORS	
Q501	KTC3199GRTA	TRANSISTOR	[M]
Q502	KTC3199GRTA	TRANSISTOR	[M]
Q503	KTC3199GRTA	TRANSISTOR	[M]
Q505	KTC3199GRTA	TRANSISTOR	[M]
Q506	KRA102MTA	TRANSISTOR	[M]
Q507	KTC3199GRTA	TRANSISTOR	[M]
Q508	KTA12710YTA	TRANSISTOR	[M]
Q509	KTC3199GRTA	TRANSISTOR	[M]
Q510	KTC3199GRTA	TRANSISTOR	[M]
Q511	KTC2026	TRANSISTOR	[M]
Q513	KTC3199GRTA	TRANSISTOR	[M]
Q514	KTC3199GRTA	TRANSISTOR	[M]
Q515	KTC3199GRTA	TRANSISTOR	[M]
Q516	KRC102MTA	TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
Q517	KTC2026	TRANSISTOR	[M]
Q519	KTC3199GRTA	TRANSISTOR	[M]
Q520	KRA102MTA	TRANSISTOR	[M]
		DIODES	
D500	B0AACK000004	DIODE	[M]
D501	B0JAPG000019	DIODE	[M]
D502	B0JAPG000019	DIODE	[M]
D503	MA2C700A0F	DIODE	[M]
D504	B0AACK000004	DIODE	[M]
D505	B0AACK000004	DIODE	[M]
D506	B0AACK000004	DIODE	[M]
D507	B0AACK000004	DIODE	[M]
D508	B0AACK000004	DIODE	[M]
D509	B0BA5R100013	DIODE	[M]
D510	B0BA9R600002	DIODE	[M]
D511	B0HARM000017	DIODE	[M]
D512	B0HARM000017	DIODE	[M]
D513	B0HARM000017	DIODE	[M]
D514	B0HARM000017	DIODE	[M]
D515	B0EAKM000085	DIODE	[M]
D516	B0EAKM000085	DIODE	[M]
D517	B0HARM000017	DIODE	[M]
D518	B0HARM000017	DIODE	[M]
D519	B0AACK000004	DIODE	[M]
D524	SLI325URCT31	DIODE	[M]
D525	B0BA6R600008	DIODE	[M]
D527	B0EAKM000085	DIODE	[M]
D528	B0EAKM000085	DIODE	[M]
D529	B0EAKM000085	DIODE	[M]
D530	B0EAKM000085	DIODE	[M]
D533	B0BA5R100013	DIODE	[M]
		CONNECTORS	
CN501	K1FB125B0095	SYSTEM CONNECTOR	[M]
CN502	K1KB07B00020	2P CONNECTOR	[M]
CN503	K1KA12A00066	12P CONNECTOR	[M]
CN506	K1KA03A00006	3P CONNECTOR	[M]
CN507	K1KA02A00008	3P CONNECTOR	[M]
CP502	K1KA07A00123	2P CONNECTOR	[M]
		COILS & TRANSFORMERS	
L500	RLQZ371	LINE FILTER	[M] ⚠
L501	G0AR76Y00001	CHOKE COIL	[M]
L502	G0AR76Y00001	CHOKE COIL	[M]
L503	G0AR76Y00001	CHOKE COIL	[M]
L504	G0AR76Y00001	CHOKE COIL	[M]
L505	G0AR76Y00001	CHOKE COIL	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
T501	ETP76VSU62CA	POWER TRANSFORMER	[M] ⚠
T502	G4C2AAJ00005	BACK-UP TRANSFORMER	[M] ⚠
		COMPONENT COMBINATION	
Z501	ERZV10V511CS	ZENER	[M] ⚠
		SPEAKER	
SP1	EAST17PL21A6	SPEAKER	[M]
		RELAY	
RLY501	RSY0040M-0	PRIMARY RELAY	[M] ⚠
		FUSES	
F1	K5D202BK0005	250V 2A FUSE	[M] ⚠
		FUSE HOLDERS	
FC501	EYF52BC	FUSE HOLDER	[M]
FC502	EYF52BC	FUSE HOLDER	[M]
		FUSE PROTECTOR	
FP1	K5G502AA0002	5A FUSE PROTECTOR	[M] ⚠
		HOLDERS	
H500	K1YF12000002	12P WIRE HOLDER	[M]
H505A	RMR0312	3P CABLE HOLDER	[M]
H505B	RMR0312	3P CABLE HOLDER	[M]
		JACKS	
JK500	K2AA2B000004	JK AC INLET	[M] ⚠
JK501	K4BC06B00027	JK 6P SPEAKER	[M]
JK502	K4BC04B00056	JK 4P SPEAKER	[M]
		EARTH TERMINAL	
E500	K4CZ01000027	TERMINALS	[M]
E501	K4CZ01000027	TERMINALS	[M]
		WIRES	
W1	REE1205	WIRE UNIT	[M]
W2	REE1204	WIRE UNIT	[M]
W500	REX1146	WIRE UNIT	[M]
W505	RWJ1103320XX	3P WIRE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
		RESISTORS	
R401	ERDS2TJ224T	220K 1/4W	[M]
R402	ERDS2TJ102T	1K 1/4W	[M]
R403	ERDS2TJ104T	100K 1/4W	[M]
R501	ERDS2TJ472T	4.7K 1/4W	[M]
R502	ERDS2TJ472T	4.7K 1/4W	[M]
R503	ERDS2TJ153T	15K 1/4W	[M]
R504	ERDS2TJ153T	15K 1/4W	[M]
R505	ERDS2TJ153T	15K 1/4W	[M]
R506	ERDS2TJ153T	15K 1/4W	[M]
R507	ERDS2TJ392T	3.9K 1/4W	[M]
R508	ERDS2TJ392T	3.9K 1/4W	[M]
R509	ERDS2TJ472T	4.7K 1/4W	[M]
R510	ERDS2TJ472T	4.7K 1/4W	[M]
R511	ERDS2TJ153T	15K 1/4W	[M]
R512	ERDS2TJ153T	15K 1/4W	[M]
R513	ERDS2TJ563T	56K 1/4W	[M]
R514	ERDS2TJ563T	56K 1/4W	[M]
R515	ERDS2TJ563T	56K 1/4W	[M]
R516	ERDS2TJ563T	56K 1/4W	[M]
R517	ERDS2TJ563T	56K 1/4W	[M]
R518	ERDS2TJ563T	56K 1/4W	[M]
R519	ERDS2TJ824T	820K 1/4W	[M]
R520	ERDS2TJ223T	22K 1/4W	[M]
R521	ERDS2TJ103T	10K 1/4W	[M]
R522	ERDS2TJ273T	27K 1/4W	[M]
R523	ERDS2TJ124T	120K 1/4W	[M]
R524	ERDS2TJ124T	120K 1/4W	[M]
R525	ERDS2TJ154T	150K 1/4W	[M]
R526	ERDS2TJ124T	120K 1/4W	[M]
R527	ERDS2TJ124T	120K 1/4W	[M]
R528	ERDS2TJ154T	150K 1/4W	[M]
R529	ERDS2TJ223T	22K 1/4W	[M]
R530	ERD25FVJ1R0T	1 1/4W	[M]
R531	ERD25FVJ1R0T	1 1/4W	[M]
R532	ERDS2TJ472T	4.7K 1/4W	[M]
R533	ERDS1FVJ100T	10 1/2W	[M]
R534	ERDS1FVJ100T	10 1/2W	[M]
R535	ERDS1FVJ100T	10 1/2W	[M]
R536	ERDS1FVJ100T	10 1/2W	[M]
R537	ERDS1FVJ100T	10 1/2W	[M]
R538	ERDS1FVJ100T	10 1/2W	[M]
R539	ERDS2TJ101T	100 1/4W	[M]
R540	ERDS2TJ101T	100 1/4W	[M]
R541	ERDS2TJ101T	100 1/4W	[M]
R542	ERDS2TJ101T	100 1/4W	[M]
R543	ERDS2TJ101T	100 1/4W	[M]
R544	ERDS2TJ101T	100 1/4W	[M]
R545	ERDS2TJ224T	220K 1/4W	[M]
R546	ERDS2TJ102T	1K 1/4W	[M]
R547	ERDS2TJ394T	390K 1/4W	[M]
R548	ERDS2TJ334T	330K 1/4W	[M]
R549	ERDS2TJ473T	47K 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R550	ERDS2TJ103T	10K 1/4W	[M]
R551	ERDS2TJ472T	4.7K 1/4W	[M]
R552	ERDS2TJ562T	5.6K 1/4W	[M]
R553	ERDS2TJ563T	56K 1/4W	[M]
R554	ERDS2TJ824T	820K 1/4W	[M]
R555	ERDS2TJ104T	100K 1/4W	[M]
R556	ERDS2TJ103T	10K 1/4W	[M]
R557	ERDS2TJ563T	56K 1/4W	[M]
R558	ERDS1FVJ180T	18 1/2W	[M]
R559	ERDS2TJ563T	56K 1/4W	[M]
R560	ERDS2TJ103T	10K 1/4W	[M]
R561	ERDS2TJ101T	100 1/4W	[M]
R565	ERDS1FVJ392T	3.9K 1/2W	[M]
R566	ERDS2TJ271T	270 1/4W	[M]
R567	ERDS1FVJ152T	1.5K 1/2W	[M]
R568	ERDS2TJ151T	150 1/4W	[M]
R569	ERDS1FVJ392T	3.9K 1/2W	[M]
R570	ERDS2TJ103T	10K 1/4W	[M]
R571	ERDS2TJ332T	3.3K 1/4W	[M]
R572	ERDS2TJ223T	22K 1/4W	[M]
R573	D0XGR10JA005	0.GR 1/10W	[M]
R575	ERDS2TJ682T	6.8K 1/4W	[M]
R577	ERDS2TJ152T	1.5K 1/4W	[M]
R578	ERDS2TJ103T	10K 1/4W	[M]
R579	ERDS2TJ332T	3.3K 1/4W	[M]
R580	ERDS2TJ220T	22 1/4W	[M]
R581	ERDS2TJ100T	10 1/4W	[M]
R582	ERDS2TJ100T	10 1/4W	[M]
R583	ERDS2TJ100T	10 1/4W	[M]
R584	ERDS2TJ100T	10 1/4W	[M]
R585	ERDS2TJ100T	10 1/4W	[M]
R587	ERDS2TJ272T	2.7K 1/4W	[M]
R588	ERDS2TJ151T	150 1/4W	[M]
R589	ERDS2TJ103T	10K 1/4W	[M]
R590	ERDS2TJ102T	1K 1/4W	[M]
R591	ERDS2TJ682T	6.8K 1/4W	[M]
R592	ERDS2TJ683T	68K 1/4W	[M]
R593	ERDS2TJ474T	470K 1/4W	[M]
R594	ERDS2TJ103T	10K 1/4W	[M]
R595	ERDS2TJ101T	100 1/4W	[M]
R596	ERDS2TJ473T	47K 1/4W	[M]
R597	ERDS2TJ103T	10K 1/4W	[M]
R598	ERDS1FVJ152T	1.5K 1/2W	[M]
R599	ERDS2TJ223T	22K 1/4W	[M]
		CAPACITORS	
C500	ECKWRS102MBC	1000P 400V	[M]
C501	ECBT1H102KB5	1000P 50V	[M]
C502	ECBT1H102KB5	1000P 50V	[M]
C503	ECBT1H102KB5	1000P 50V	[M]
C504	ECBT1H681KB5	680P 50V	[M]
C505	ECBT1H102KB5	1000P 50V	[M]
C506	ECBT1H102KB5	1000P 50V	[M]

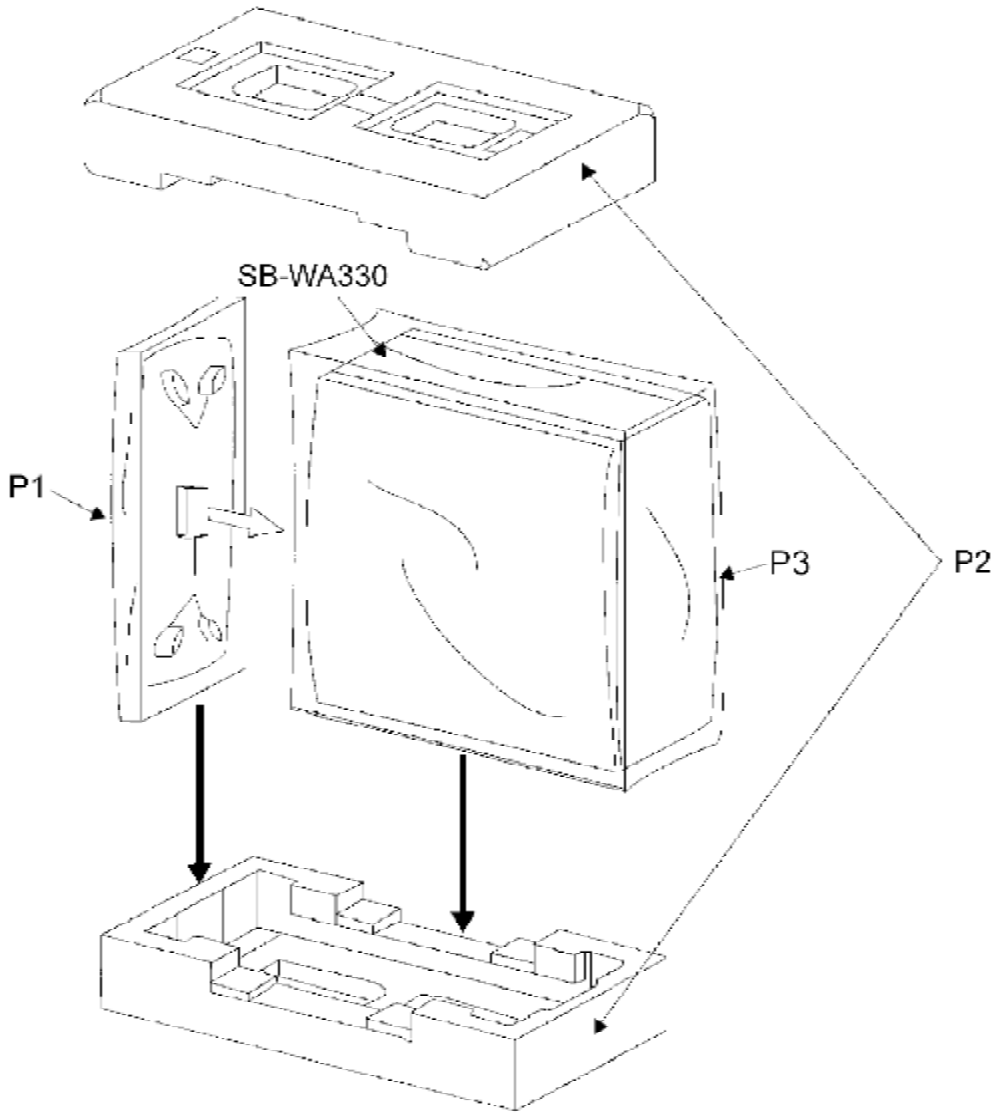
Ref. No.	Part No.	Part Name & Description	Remarks
C507	ECBT1H180JC5	18P 50V	[M]
C508	ECBT1H180JC5	18P 50V	[M]
C509	ECBT1H220JC5	22P 50V	[M]
C510	ECBT1H220JC5	22P 50V	[M]
C511	ECBT1H220JC5	22P 50V	[M]
C512	ECBT1H220JC5	22P 50V	[M]
C513	F1D1H473A012	0.047 50V	[M]
C514	ECA0JM101B	100 6.3V	[M]
C515	ECKR2H103ZF5	0.01 500V	[M]
C516	ECKR2H103ZF5	0.01 500V	[M]
C517	ECBT1C103NS5	0.01 16V	[M]
C518	F1D1H473A012	0.047 50V	[M]
C519	F1D1H473A012	0.047 50V	[M]
C520	F1D1H473A012	0.047 50V	[M]
C521	F1D1H473A012	0.047 50V	[M]
C522	F1D1H473A012	0.047 50V	[M]
C523	F1D1H473A012	0.047 50V	[M]
C524	F1D1H1040002	0.1 50V	[M]
C525	F1D1H1040002	0.1 50V	[M]
C526	F1D1H1040002	0.1 50V	[M]
C527	F1D1H1040002	0.1 50V	[M]
C528	F1D1H473A012	0.047 50V	[M]
C529	F1D1H1040002	0.1 50V	[M]
C530	ECBT1H102KB5	1000P 50V	[M]
C531	ECBT1H102KB5	1000P 50V	[M]
C532	ECBT1H102KB5	1000P 50V	[M]
C533	ECBT1H102KB5	1000P 50V	[M]
C534	ECA1HM330B	33 50V	[M]
C536	ECEA1CKA330B	33 16V	[M]
C537	F1D1H1040002	0.1 50V	[M]
C538	ECA0JM101B	100 6.3V	[M]
C539	ECEA0JKA221B	220 6.3V	[M]
C540	ECEA1HKA2R2B	2.2 50V	[M]
C541	ECEA1CKA100B	10 16V	[M]
C543	ECBT1H102KB5	1000P 50V	[M]
C544	ECA1HM101B	100 50V	[M]
C545	F1D1H1040002	0.1 50V	[M]
C546	ECA1VM332B	3300 35V	[M]
C547	ECA1VM472B	4700 35V	[M]
C548	ECA1VM472B	4700 35V	[M]
C549	ECA1VM332B	3300 35V	[M]
C550	ECBT1C103NS5	0.01 16V	[M]
C551	ECBT1H103KB5	0.01 50V	[M]
C552	F1D1H1040002	0.1 50V	[M]
C553	ECQE1104KF3	0.1 100V	[M]
C554	ECQE1104KF3	0.1 100V	[M]
C555	ECEA1VKA4R7B	4.7 35V	[M]
C556	ECBT1H103KB5	0.01 50V	[M]
C557	ECEA1CKA220B	22 16V	[M]
C558	ECA1CM102B	1000 16V	[M]
C559	ECBT1H103KB5	0.01 50V	[M]
C560	ECA1HM100B	10 50V	[M]
C561	ECEA1HKA2R2B	2.2 50V	[M]
C562	ECQB1H562JF3	5600P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C563	ECQV1H823JL3	0.082 50V	[M]
C564	ECBT1C122KR5	1200P 16V	[M]
C565	F1D1H1040002	0.1 50V	[M]
C566	F1D1H1040002	0.1 50V	[M]
C567	ECA1HM100B	10 50V	[M]
C568	ECBT1C103NS5	0.01 16V	[M]
C569	F1D1H473A012	0.047 50V	[M]

13.3. Packing Materials & Accessories Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPF0357	MIRAMAT (STAND)	[M]
P2	RPNX0189	POLYFOAM	[M]
P3	RPFX0045	MIRAMAT (S.WOOFER)	[M]

13.4. Packaging



FLE0306/D/A/S/E/N